

Amendment and Response

Applicant: Michael Goessel et al.

Serial No.: 10/577,288

Filed: April 24, 2006

Docket No.: I431.135.101/FIN516PCT/US

Title: EVALUATION CIRCUIT AND METHOD FOR DETECTING AND/OR LOCATING FAULTY DATA WORDS IN A DATA STREAM T_N

REMARKS

The following remarks are made in response to the Non-Final Office Action mailed June 16, 2010. Claims 1-34, 54 and 59-63 and have been cancelled. Claim 53 has been allowed. Claims 35-52 and 55-58 were rejected. With this Response, claim 35 has been amended. Claims 35-53 and 55-58 remain pending in the application and are presented for reconsideration and allowance.

Claim Rejections under 35 U.S.C. § 103

Claims 35, 51, 52, and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa et al. U.S. publication 2004/0246337 (“Hasegawa”), in view of Wu, U.S. Patent 5,831,992 (“Wu”). Applicants respectfully traverse these rejections.

To establish *prima facie* obviousness, all claim limitations must be considered. MPEP 2143.03 (citing *In re Wilson*, 424 F.2d 1382, 1385, (CCPA 1970)). Applicants respectfully contend the combination of Hasegawa and Wu proposed in the Office Action fails to disclose each element of claim 35

As amended, claim 35 includes,

the first linear automaton circuit and the second linear automaton circuit are designed such that a first signature and a second signature, respectively, is calculated of each data word of the n successive data words y(1), ..., y(n),

Neither references discloses at least this claim element. For instance, Hasegawa shows in fig. 4 the collective compression unit receiving data words from the circuit under test 18. In fig. 5, Hasegawa shows that the scan chain compression unit 2 receives data words from the circuit under test 18. However, Hasegawa does not show that both blocks 16 and 2 receive data words in parallel. These blocks 16 and 2 are used in different modes. Block 16 is used in a failure pattern determination mode, whereas block 2 is used in a failure scan chain determination mode. See Hasegawa at para [0064].

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Consequently, the blocks receive different data words at different times. Therefore, they do not calculate a first signature and a second signature of each data word of the successive data words.

Wu also fails to disclose the cited claim element. Wu shows in figure 3 two programmable compactors 14 and 24 in parallel. However, these compactors are not used to generate signatures of each data word of the successive data words. The embodiment of fig. 3 describes two sets of diagnostic hardware. See column 8, line 48 of Wu. It is described that in the diagnostic mode the two programmable compactors are set to different feedback polynomials. However, these programmable compactors in diagnostic mode are not used to generate signatures of data words of the n successive data words.

The hardware for the diagnostic mode is described with reference to fig. 2 of Wu. That figure 3 shows the modification of the circuit of fig. 2 is further illustrated by the use of the controller 18 and the selection gates between the scan chains and the programmable compactor 14.

It is disclosed in column 6, line 45 of Wu that in fig. 1 all the scan chains are tested at the same time. On the other hand, the gating of scan out data as shown in fig. 2 is used to analyze only the test response from only a single chain, see column 6, lines 55 to 58. This means that the programmable compactors 14 and 24 are used in the diagnostic mode, in which they have different polynomials only for analyzing single scan chains. Scan chains other than the tested one are gated. Accordingly, the programmable compactors are not used to generate signatures of the data words. They just receive data from one single scan chain.

Since the cited references alone or in combination fail to disclose each claim element, the Office Action fails to establish *prima facie* obviousness of claim 35. As such, claim 35, and claims 51, 52 and 55 dependent thereon, are in condition for allowance.

Claims 36-50 were rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa and Wu, in view additional references. These claims all depend on claim 35 and are therefore allowable for at least the same reasons.

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Allowable Subject Matter

The Office Action allowed claim 53. The Examiner's acknowledgment of the allowed claim is appreciated.

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CONCLUSION

In view of the above, Applicant respectfully submits that all of the pending claims are in form for allowance. Therefore, reconsideration and withdrawal of the rejections and allowance of the claims are respectfully requested.

No fees are required under 37 C.F.R. 1.16(h)(i). However, if such fees are required, the Patent Office is hereby authorized to charge Deposit Account No. 50-0471.

Please consider this a Petition for Extension of Time for a sufficient number of months to enter these papers, if appropriate. At any time during the pendency of this application, please charge any additional fees or credit overpayment to Deposit Account No. 500471.

The Examiner is invited to contact the Applicant's representative at the below-listed telephone numbers to facilitate prosecution of this application.

Any inquiry regarding this Amendment and Response should be directed to Mark L. Gleason at Telephone No. (612) 767-2503, Facsimile No. (612) 573-2005. In addition, all correspondence should continue to be directed to the following address:

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